

Mobile Device Programming

Project assignment - part 2, Winter semester of 2021/2022

Delivery deadline: 23rd December 2021

In this second phase of the course's project, we intend to add functionalities related to the presentation and resolution of chess puzzles to the ChessRoyale application. The delivery of the implementation of the requirements described below is carried out through the corresponding tag in the group's GitHub repository. The tag name for this second delivery is "chess_royale_2".

Currently, the presentation of the daily puzzle is subject to the existence of network connectivity when the user wants to start solving the puzzle. Furthermore, puzzles are not persistently stored on the device, whether those puzzles have been solved or not. This second phase of the project intends to address these two limitations in the user experience. In the third and final phase, we will add support for users to play chess games between themselves.

At this stage the ChessRoyale application will include features related to maintaining the history of daily puzzles and to obtaining and storing puzzles locally without direct user intervention, taking advantage of the most opportune moments to fetch them. Puzzles are to be persistently stored using the Room library.

The ChessRoyale application will include at least 2 new screens:

- The History Screen, that displays the list of daily puzzles stored locally. Each element of that list includes an indication of whether the puzzle has already been solved by the user. If the user selects an unsolved puzzle, the screen for solving the puzzle developed in the first phase of the work is displayed (i.e. the Puzzle screen);
- The Solved Puzzle screen, for displaying a puzzle from that list, if the selected puzzle has already been solved. This screen displays the puzzle in its initial state and gives the user the choice between solving the puzzle again or viewing its solution. If the user elects to solve the puzzle again, the puzzle-solving screen (i.e. the Puzzle Screen) developed in the first phase of the work is displayed.

In addition to the previously identified screens, the solution also has the requirement to obtain the daily puzzle without direct user intervention, using for this purpose the API Work Manager. The puzzles are retrieved daily by scheduling work in this API. Obtaining the puzzle culminates in its local storage to be solved later. The decision about which are the best conditions to execute the scheduled work is left to the authors' discretion. Remember to document your decision.

As in the previous assignment, the details related to the user experience, such as the general appearance of the UI and other navigation details, are left to the authors' discretion.

Deadline

December 23, 2021

ISEL, November 27, 2021